A NEW SPECIES OF METAPHYCUS PARASITIC ON PSYLLIDS[1]

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Metaphycus psyllidis, described below, is an encyrtid of more than ordinary interest because it parasitizes the nymphs of the tomato psyllid, *Paratrioza cockerelli* (Sulc.). All other species of *Metaphycus* have been reared from coccids, and for this reason it has been generally assumed that all the species of the genus were coccid-inhabiting parasites. The psyllid-inhabiting species was discovered by Kenneth Sloop, Deputy Agricultural Commissioner of Orange County, California, who noticed adult *Metaphycus* on the leaves and stems of plants of chili pepper (*Capsicum* sp.) in a field near Anaheim. Sloop's interest in this parasite was aroused because of its resemblance to *Metaphycus helvolus* (Comp.), a species recently introduced into Orange County for the control of the black scale, *Saissetia oleae* (Bern.).

Sloop submitted specimens of the parasite to the Citrus Experiment Station for identification, stating that the adult parasites were abundant on pepper plants and that he was unable to find coccids on these plants. On November 7, 1940, Sloop, S. E. Flanders, and the writer began a search for the insect in which the parasites were breeding. The pepper plants were found to be free from coccids but they were lightly infested with the psyllid *Paratrioza cockerelli.* A few of the psyllid nymphs were inhabited by the larvae and pupae of a parasite; others were empty shells containing parasite remains and having exit holes from which the parasites had emerged. The psyllid nymphs containing live pupae and larvae were isolated in a vial, and from these the parasites were reared. The parasites reared from the psyllids are indistinguishable from those captured as adults in the field.

In Timberlake's key to the species, *Metaphycus psyllidis* runs best to *M. flavus* (How.). It is not in entire agreement with

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Timberlake's redescription of *M. flavus*, however, and is clearly different from the Peruvian and Sicilian specimens which Timberlake identified as *M. flavus* when he redescribed the species.

Metaphycus psyllidis belongs to a group of species in which both the maxillary and the labial palpi are clearly three-segmented. This character readily separates it from the great majority of the described species. Only one species in which the maxillary and labial palpi are three-segmented was known to Mercet, namely, *M. insidiosus* (Mercet), and this he considered an anomalous species. Recently the writer described six African species having three-segmented maxillary and labial palpi. The psyllid-inhabiting species from California is different from any of these.

Metaphycus psyllidis Compere, new species

Female. General color lemon yellow; the mesoscutum, axillae, and scutellum slightly orange; body with black or brown markings as follows: center of pronotum and a faint dot on either corner of the collar, apex of postnotal wing process and parts of axillary sclerites, propodeum faintly on posterior aspect mesad of spiracles, fifth and sixth tergites faintly. Antennae yellowish white, with the basal half of club, first three or four funicle joints, base of pedicel, and a longitudinal blotch on outer aspect of scape, black or brown. Distal segments of the tarsi faintly dusky. Fore wings hyaline, uniformly ciliated; speculum interrupted below by two rows of hairs.

Frontovertex one and one-half times as long as wide. Ocelli in an equilateral triangle, or nearly so; posterior ocelli about once their own diameter from the orbits and occipital margin. Scape four and one-half times as long as wide, widest near the middle. Pedicel twice as long as wide and almost as long as the first three funical joints united. First funicle joint slightly wider than long; the second subequal to the first, those that follow plainly increasing in size; the sixth one and one-half times as wide as long. Club two and one-half times as long as wide, about one and one-third times as wide as the sixth funicle joint. Abdomen slightly shorter than the thorax. Ovipositor not exserted beyond apex of abdomen.

Length, 1.1 mm.

Male. Structurally the males closely resemble the females, but in color they have more extensive black or brown markings. Apparently the coloration is quite variable, for the tag-mounted male has the dorsum of the thorax extensively brown to blackish, in contrast to the two slide-mounted specimens, which have the dorsum of the thorax extensively orange yellow with limited, sharply contrasting black markings. In detail, the two slide-

mounted males are marked with black of varying intensities, as follows: occiput at sides of foramen; concealed part of pronotum and a dot on either corner of collar; anterior concealed margin of mesoscutum; scuto-axillary sutures and vertical margins of axillae and scutellum; apical half of tegulae, knob of second axillary sclerite, and apex of postnotal wing process; metanotum and propodeum mesad of spircales; dorsum of abdomen, except widely around margins. Tarsi of fore legs and apical tarsi of middle and hind legs slightly dusky. Color of antennae is similar to that of females.

In the tag-mounted specimen the head has collapsed, and in the balsam-mounted specimens the heads are turned so that the exact proportions of the head cannot be obtained. So far as can be seen, the proportions and positions of the ocelli seem to be similar to those of the female.

Length, 1.0 mm.

Described from five females and three males, holotype, allotype, and paratypes. Of these specimens, two females and one male are on points; one female is cleared, stained, and mounted in balsam on one slide; two females and two males are mounted in balsam under one cover slip, the female and male in the middle position being designated as the holotype and allotype, respectively. The tag-mounted paratypes and the stained balsam-mounted paratype were reared from psyllid nymphs isolated in a vial; the other specimens were collected on the leaves or stems of the infested plants in Orange County, California, November 7, 1940. The types of the new species are to be deposited in the United States National Museum, Washington, D. C.

PETUNIA, AN IMPORTANT WINTER HOST OF THE TOMATO MITE

The tomato mite, *Phyllocoptes destructor* Keifer, a very destructive pest of tomatoes, has been observed over-wintering in large numbers on petunia. Heavy infestations were observed in the vicinity of Woodland, California, on April 29, 1943. In some areas the population was so great that the base of the stems and lower leaves of the plants had a characteristic bronzy appearance resulting from the feeding of the mite. This observation indicates that petunia plantings may furnish an important source of mites for infesting tomatoes both in the beds and in the fields.—A. E. MICHELBACHER.